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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/670,596 | 09/29/2000 | Tomohiko Otose | N00195US | 4446 |

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[REDACTED] EXAMINER

PHAM, HAI CHI

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2861 | |

DATE MAILED: 12/13/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|--------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/670,596 | OTOSE ET AL. |
| Examiner | Art Unit | |
| Hai C Pham | 2861 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 September 2000 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "detecting sensor" set forth in each of the claims 13 and 14 must be shown or the feature canceled from the respective claims. No new matter should be entered.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because the abstract includes two distinct paragraphs. Correction is required. See MPEP § 608.01(b).

Claim Objections

5. Claims 5, 6, 13, and 14 are objected to because of the following informalities:

Claim 5:

- Line 9, "a surface" should read --the surface-- since the claimed element has been introduced earlier within the claim.

Claim 6:

- Line 9, "a surface" should read --the surface-- since it refers to a claimed element that has been introduced earlier within the claim.

Claim 13:

- Line 4, "travelling" should read --traveling--.

Claim 13:

- Line 4, "travelling" should read --traveling--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13:

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- The following limitation "in a direction *vertical* to a direction of traveling of an object" at lines 3-4 appears to be misleading in that such vertical direction may be interpreted as the height above the surface of the object. A suggested correction would be --in a direction *perpendicular* to a direction of traveling of an object--.

Claim 14:

- Similarly, the following limitation "in a direction *vertical* to a direction of traveling of an object" at lines 3-4 appears to be misleading in that such vertical direction may be interpreted as the height above the surface of the object. A suggested correction would be --in a direction *perpendicular* to a direction of traveling of an object--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

9. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Fork et al. (U.S. 6,072,517.)

Fork et al. discloses a xerographic printing system comprising a picture element array (OLED array 20) composed of picture elements containing light-emitting devices (OLEDs) arranged in directions of a line and a string in two dimensions (col. 5, lines 41-45,) a horizontal scanning circuit (data line driver 32) to feed data signals (via data stream input line 42, Fig. 3) to each picture element string in said picture element array; and a vertical scanning circuit (gate drivers 34) to sequentially select and activate each picture element line in said picture element array (col. 6, lines 51-67,) wherein said picture element array, said horizontal scanning circuit and said vertical scanning circuit are formed in a same insulating substrate (Figs. 1, 8) (col. 8, lines 13-60.)

With regard to claims 2-4, Fork et al. further teaches the light-emitting device being composed of organic electroluminescence devices (organic light emitting diodes,) the horizontal scanning circuit and the vertical scanning circuit being composed of poly-crystal silicon thin-film transistors (col. 3, lines 53-56 and col. 8, lines 26-40,) and a means (control electronics 22) for setting amounts of light to be emitted from the light-emitting device in picture elements constituting the picture element lines by each picture element line constituting said picture element array (col. 3, lines 31-52.)

With regard to claims 5 and 6, Fork et al. teaches the vertical scanning circuit being so operated that, in a state in which the picture element array is disposed facing a surface of a photosensitive body (14) in a manner that a direction of said picture element line is parallel to a rotation axis of said photosensitive body, activates said picture element line containing each picture element while each picture element contained in each picture element string in said picture element array is passing

sequentially on a same spot on a surface of said photosensitive body, with rotation of said photosensitive body (col. 6, lines 20-67.)

With regard to claims 7 and 8, Fork et al. teaches the number of picture elements in said each picture element string activated by said vertical scanning circuit is able to be changed (Figs. 5, 6) (col. 6, lines 26-35.)

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fork et al. in view of Leksell et al. (U.S. 4,947,160.)

Fork et al. discloses all the basic limitations of the claimed invention except for the picture elements constituting the picture element array being divided into a plurality of groups of picture elements in directions of a same line and of a same string.

However, Leksell et al. discloses a multiplexed thin film electroluminescent edge emitter used as a high resolution light source for a printing device, whose light emitting elements are divided into a plurality of pixel groups including a plurality of individual pixels in directions of the same line and of the same string (Figs. 3, 4.)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Fork et al. with the aforementioned

teaching of Leksell et al. By doing so, it is possible to reduce the number of bus bars used to energize the different pixel groups.

12. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fork et al. in view of Haneda (U.S. 6,011,575.)

Fork et al. discloses all the basic limitations of the claimed invention except for the detecting sensor for detecting positional deviation of insertion in a direction perpendicular to a direction of traveling of an object to which a toner image is transferred from said photosensitive body, and a shift register for shifting data signals in the horizontal scanning circuit to correct the detected positional deviation.

However, Haneda discloses an image forming apparatus comprising an array of LEDs as a light source, a registration sensing means (RS, Fig. 13) for sensing the positional deviation of the line image in the primary scanning direction (Fig. 15b) perpendicular to the moving direction of the photoreceptor, and a control section (251) for correcting the positional deviation by shifting outputting timing for each exposure line.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Fork et al. with the aforementioned teaching of Haneda for the purpose of correcting positional deviation of the pixels in the main scanning direction so as to enhance the image forming performance.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (703) 308-1281. The examiner can normally be reached on T-F (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (703) 308-0750. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



HAI PHAM
PRIMARY EXAMINER

December 6, 2001